

**The Knowledge Bank at The Ohio State University**  
**Ohio State Engineer**

**Title:** Front Matter

**Issue Date:** Mar-1925

**Publisher:** Ohio State University, College of Engineering

**Citation:** Ohio State Engineer, vol. 8, no. 3 (March, 1925), 1-4.

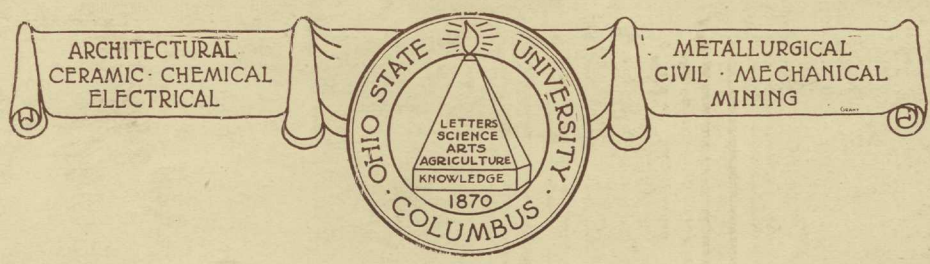
**URI:** <http://hdl.handle.net/1811/33703>

**Appears in Collections:** [Ohio State Engineer: Volume 8, no. 3 \(March, 1925\)](#)

25

OHIO STATE UNIVERSITY MAR 13 1925  
BROWN HALL LIBRARY

# OHIO STATE ENGINEER



A PULLMAN OF THE AIR  
A Stout All Metal Passenger Plane

TA  
036  
V. 8, No. 3  
Mar. 1925  
copy 3

*C.E. Sherman*

MARCH, 1925

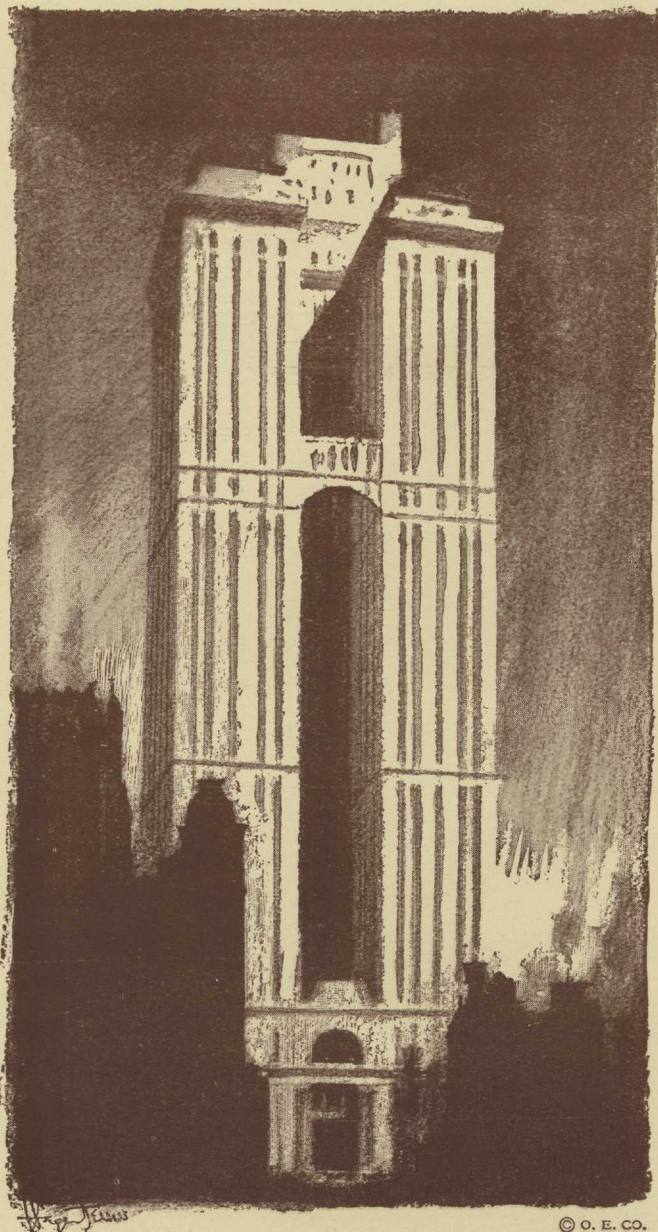
Vol. VIII

OHIO STATE UNIVERSITY

No. 3

Member of the Engineering College Magazines Associated





*The Magnolia Petroleum  
Building, Dallas, Texas*

ALFRED C. BOSSOM,  
Architect

Drawn by Hugh Ferriss

© O. E. CO.

## "Sheer Height"

THE American business building represents a distinct and national architectural style when its design frankly emphasizes its sheer height and outwardly expresses the inner facts of its construction.

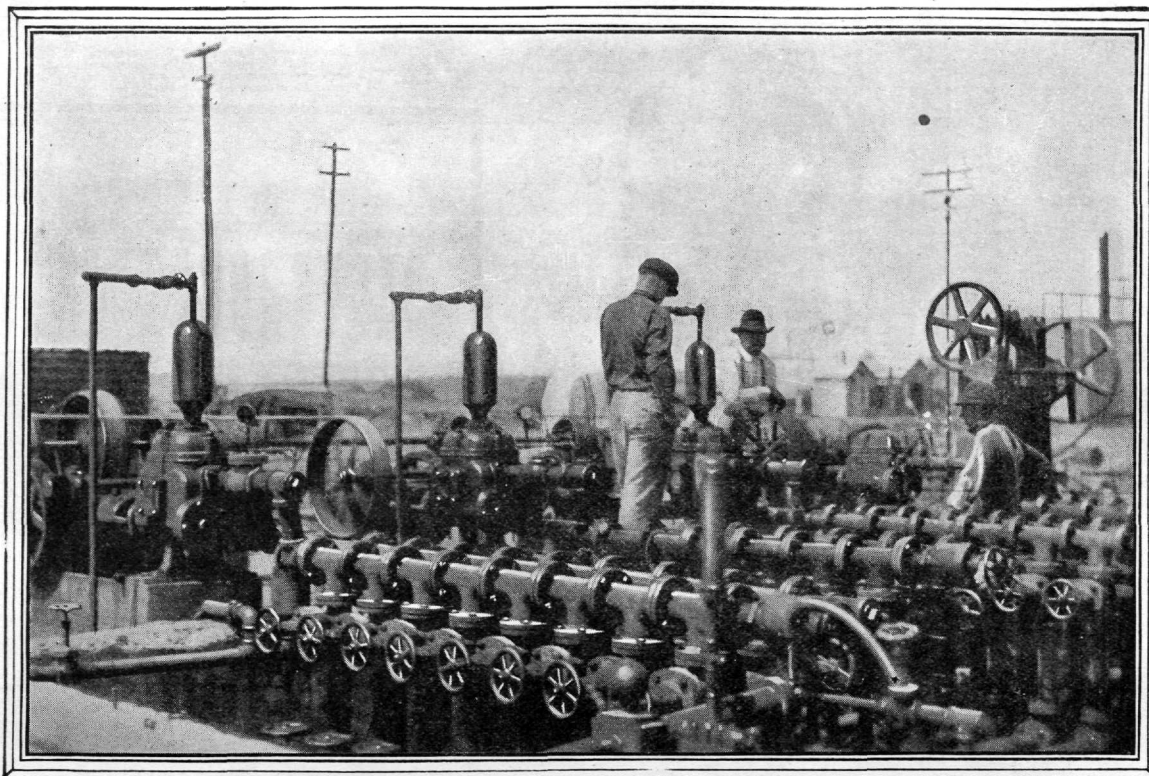
The tall buildings which stand as monuments throughout the country to the vision of our architects and the skill of our engineers have, in the gigantic profiles which they rear against the sky, the true American spirit of aspiration and progress toward even greater achievements.

Certainly modern invention—modern engineering skill and organization, will prove more than equal to the demands of the architecture of the future.

O T I S   E L E V A T O R   C O M P A N Y

Offices in all Principal Cities of the World





GATHERING-LINE HEADERS AT PLANT NO. 9 OF CHESTNUT AND SMITH CORPORATION, KIEFER, OKLAHOMA

## KEEPING FAITH WITH THE OIL INDUSTRY'S FAITH IN CRANE

Experienced engineers in oil fields and refineries place their confidence in the dependable service Crane products give.

They use Crane piping to carry millions of barrels of oil from the wells through storage farms to refineries. And they employ countless Crane valves and fittings—many of special design—to direct and control this flood at each step along the way.

Crane engineers regard this confidence as a definite responsibility. Accepting it, they consistently maintain Crane standards, altering them only to better them.

Through constant research, these specialists seek improvement in designs and materials—to promote the progress of the oil industry and to earn its continued faith in products that bear the Crane name.

# CRANE

GENERAL OFFICES: CRANE BUILDING, 836 S. MICHIGAN AVENUE, CHICAGO  
CRANE LIMITED: CRANE BUILDING, 386 BEAVER HALL SQUARE, MONTREAL

*Branches and Sales Offices in One Hundred and Forty-eight Cities*

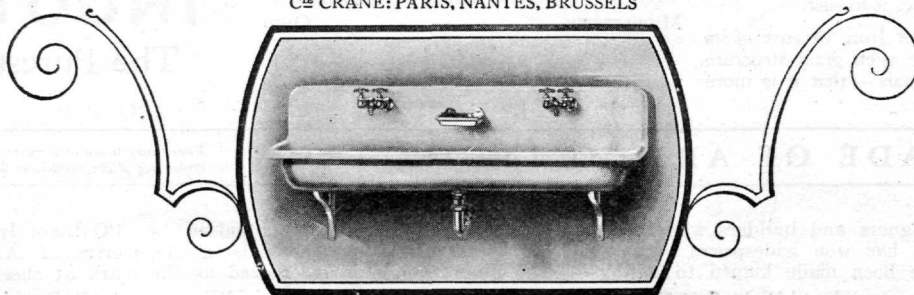
*National Exhibit Rooms: Chicago, New York, Atlantic City, San Francisco and Montreal*

*Works: Chicago, Bridgeport, Birmingham, Chattanooga, Trenton and Montreal*

CRANE EXPORT CORPORATION: NEW YORK, SAN FRANCISCO, SHANGHAI

CRANE-BENNETT, LTD., LONDON

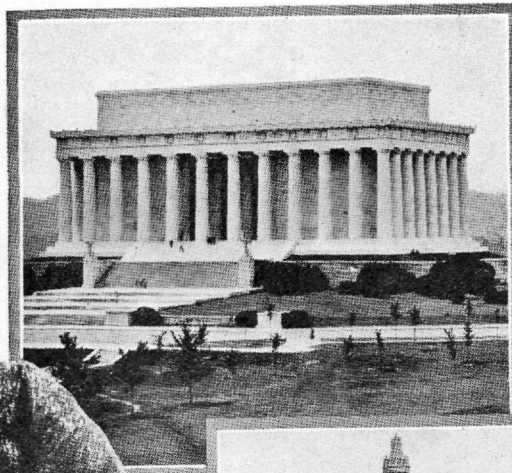
C<sup>IE</sup> CRANE: PARIS, NANTES, BRUSSELS



Wash Sink of Enameled Iron, No. Y-391



Kansas City Athletic Club. Holt, Price & Barnes Architects. Kornbrodt Kohnice Company, Sheet Metal Contractor. Because of its enduring, rust-resistant qualities, ARMCO Ingot Iron was used for all air intakes, for connecting cases for heating coils, etc.



Lincoln Memorial, Washington, D. C. Henry Bacon, Architect. 17,000 pounds of ARMCO Ingot Iron was used for the skylights. What a tribute to the permanence of commercially pure iron!



Municipal Building, New York City. McKim, Mead & White, Architects. ARMCO Iron Herringbone Metal Lath is used throughout.

## Gentlemen, the ARCHITECT maker of monuments to mankind

**I**N the first century B. C., Marcus Vitruvius, Architect, named the three fundamentals of his art—"stability, utility, and beauty."

How faithfully the Architect of today adheres to these principles! Look about you!

Utility? There is not a wasted inch in the modern building, be it home or school, factory or hospital or skyscraper . . .

Beauty? Our cities are full of it—a new beauty typifying a new civilization . . .

Stability? *Because of the Architect's knowledge of materials, our buildings of today will remain monuments to mankind through ages yet to come!*

### For instance, there is iron

Ask an architect why he specifies ARMCO Ingot Iron—he will tell you that Ingot Iron is the purest iron made. He will point out that purity in iron means *endurance*—since it is the foreign matter in iron that causes it to rust.

He knows that Ingot Iron, because of its great purity, is of more even grain structure than other ferrous metals—that it is more

ductile—easy to bend into different shapes. It takes and *holds* zinc coating as no other metal will. And that is why he specifies ARMCO Ingot Iron for sheet metal work exposed to corrosive influences.

Its use means long life and freedom from heavy upkeep expense. And this applies relatively as much to the modest home as it does to vast commercial structures. You'll find it in general use for flashing, roofing, siding, rain gutters, downspouts, water tanks, ventilating systems, window and skylight frames, lath, cornices, culverts, smokestacks and the like.

Whether you are building or replacing—whether you require iron by the pound or by the ton—always look for the blue Armco triangle on the sheet metal you buy and always ask this question: "*Is it made of ARMCO Ingot Iron?*"

THE AMERICAN ROLLING MILL CO  
MIDDLETOWN OHIO

(EXPORT)

THE ARMCO INTERNATIONAL CORPORATION  
MIDDLETOWN OHIO CABLE ADDRESS—ARMCO

### Save that Eighty Cents

Practically eighty cents of every dollar you pay for sheet metal work goes to labor—regardless of what metal is used. It is poor economy to use ordinary iron or steel when Ingot Iron costs but a few cents more. Don't waste that eighty cents by using metal less durable than Ingot Iron.

# ARMCO

TRADE MARK

# INGOT IRON

The Purest Iron Made

IS IT MADE OF ARMCO INGOT IRON?

Every day more and more people are making sure of enduring sheet metal work by asking this question.



Designers and builders who have occasion to specify sheet metal, find in ARMCO Ingot Iron a durable metal that has won widespread acceptance. By years of national advertising, the merits of ARMCO Ingot Iron have been made known to millions. The blue triangle is recognized as the mark of sheet metal quality.

This reproduced *Saturday Evening Post* Advertisement is just one of the many ARMCO advertisements that are designed to help the building profession.

TAI  
032  
v. 8, no. 3  
1925

# OHIO STATE ENGINEER

Member Engineering College Magazines Associated

Published quarterly by the students in the College of Engineering, Ohio State University.

Vol. VIII

MARCH, 1925

No. 3

## STAFF

### MANAGING BOARD

**J. K. GRIFFIN '26**  
Editor

**T. H. SCHWARZKOPF '25**  
Managing Editor

**D. G. WETTERAUER '26**  
Business Manager

**H. H. ROSS '26**  
Circulation Manager

**C. L. TERREL '26**  
Advertising Manager

### EDITORIAL BOARD

**R. E. BIRCH '27**.....Assistant Editor  
**F. V. HUNT '25**.....News Editor  
**O. W. BARD '25**.....Alumni Editor  
**C. E. BEARD '26**.....Humor Editor  
**R. R. GRANT '25**.....Art Editor

### BUSINESS BOARD

**ED. SAWYER '27**.....Assistant Advertising Manager  
**J. W. MERCER '27**.....Assistant  
**C. L. LAMBRIGHT '28**.....Assistant  
**L. P. DOYLE '26**.....Assistant  
**HARRY WHITE '27**.....Assistant

### ADVISORY BOARD

**Dean E. A. Hitchcock**  
**Prof. J. S. Meyers**

**Prof. C. T. Morris**  
**Engineer's Council**

### MEMBERS OF THE ENGINEERING COLLEGE MAGAZINES ASSOCIATED

Prof. Leslie Van Hagan, University of Wisconsin, Madison, Wisconsin.

The Cornell Civil Engineer  
The Transit  
Iowa Engineer  
Colorado Engineer  
Nebraska Blue Print  
Sibley Journal

Ohio State Engineer  
Princeton News Letter  
Penn State Engineer  
Kansas Engineer  
Wisconsin Engineer  
Illinois Technograph  
Towne Scientific Journal

Tech Engineering News  
Kansas State Engineer  
Rose Technic  
Michigan Technic  
Minnesota Techno-log  
Virginia Journal

Subscription price, \$1.00 per year, 25c per copy. Checks, money orders, etc., payable to the Ohio State Engineer.

Entered as second-class matter May 15, 1922, at the post office at Columbus, Ohio, under the act of March 3, 1879. Acceptance for mailing at special rate of postage provided for in Section 1103, Act of October 3, 1917, authorized December 8, 1922.

## CONTENTS

	Page
COMMERCIAL AIRCRAFT .....	5
BUILDING SUPPORTS .....	7
ARTIFICIAL LIGHTING .....	9
BENJAMIN GARVER LAMME.....	11
COMMERCE AND ENGINEERING.....	13
EDITORIALS .....	14
THE BOOKSHELF SPEAKS.....	16
CRANKS AND COUNTERSHAFTS.....	19
ALUMNI NEWS .....	22



## So the Turns of an Indoor Track are Banked

DOWN the stretch of an indoor track, then 'round the turn — what would happen to a runner if the turn were perfectly level, like a basketball floor?

The same thing that would happen to a Timken Bearing if the Timken Bearing were not tapered.

When you sharply turn the front wheels of a moving motor car, for example, the same thing happens as when a runner dashes round the turn of a track. The front wheels direct the car around the turn. Momentum, however, tends to throw it sidewise — in the same direction that it previously was traveling. The result is a heavy side load or "end thrust" on the bearings in the front wheels.

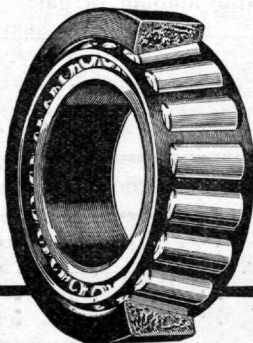
The bank of the track keeps a runner from feeling the effect of side-swing as he rounds a curve. A similar device — the taper — enables a Timken Bearing



easily to withstand "end thrust" from any source.

In bearings that are not tapered, heavy "end thrust" must be cared for by a separate "thrust" bearing. A Timken Tapered Roller Bearing withstands heavy "thrust loads," as well as all other loads, with equal effectiveness.

**THE TIMKEN ROLLER BEARING COMPANY**  
CANTON, OHIO



**TIMKEN**  
*Tapered*  
**ROLLER BEARINGS**